

Atty. Docket No. YOR92000054US1
(590.007)

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Cancelled)

2. (Currently Amended) The method according to ~~Claim 1~~ Claim 7, further comprising:

automatically assessing, subsequent to said interconnecting step, whether all pins are connected;

if at least two pins are not connected, thereafter applying a protocol to establish at least one additional connection between at least one additional pair of compatible pins.

3. (Cancelled)

4. (Currently Amended) ~~The method according to Claim 3,~~ A method of interconnecting cores in systems-on-chip, said method comprising the steps of:

selecting at least two cores to be interconnected, each core having at least one associated pin classified in terms of predetermined functional, structural or electrical characteristics;

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automatically assessing the compatibility of at least one pin of at least one core with respect to at least one pin of at least one other core, wherein said assessing comprises performing a compatibility check to determine whether the pins of a given pair of pins are compatible with respect to at least one given characteristic;

automatically interconnecting said cores via establishing at least one connection between at least one pair of compatible pins;

prior to said selecting step, classifying said cores and said pins in terms of predetermined characteristics; and

further comprising, prior to said selecting step, encoding said characteristics as binary decision diagram variables.

5. (Previously Presented) The method according to Claim 4, wherein said assessing step comprises performing Boolean operations on said binary decision diagram variables to compare and match characteristics.

6. (Cancelled)

7. (Currently Amended) ~~The method according to Claim 3,~~ A method of interconnecting cores in systems-on-chip, said method comprising the steps of:

selecting at least two cores to be interconnected, each core having at least one associated pin classified in terms of predetermined functional, structural or electrical characteristics;

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automatically assessing the compatibility of at least one pin of at least one core with respect to at least one pin of at least one other core, wherein said assessing comprises performing a compatibility check to determine whether the pins of a given pair of pins are compatible with respect to at least one given characteristic;

automatically interconnecting said cores via establishing at least one connection between at least one pair of compatible pins;

prior to said selecting step, classifying said cores and said pins in terms of predetermined characteristics; and

wherein said assessing step further comprises performing a matching check to determine whether the pins of a given pair of pins exhibit equivalent values associated with at least one given characteristic.

8. (Currently Amended) The method according to ~~Claim 1~~ Claim 7, further comprising:

subsequent to said interconnecting step, automatically verifying whether the pins in at least one interconnected pair of pins have matching pin characteristics.

9. (Previously Presented) The method according to Claim 8, further comprising:

prior to said verifying step, establishing a list of pin characteristics for which a match between the pins in at least one pair of pins is required;

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said verifying step comprising the step of referring to said list of pin characteristics to determine whether the pins in at least one interconnected pair of pins have matching pin properties.

10. (Cancelled)

11. (Cancelled)

12. (Currently Amended) ~~The system according to Claim 11,~~ A system for interconnecting cores in systems-on-chip, said system comprising:

a selector which selects at least two cores to be interconnected, each core having at least one associated pin classified in terms of predetermined functional, structural or electrical characteristics;

an assessing arrangement which automatically assesses the compatibility of at least one pin of at least one core with respect to at least one pin of at least one other core, wherein said assessing arrangement is adapted to perform a compatibility check to determine whether the pins of a given pair of pins are compatible with respect to at least one given characteristic;

a connecting arrangement which automatically interconnects said cores via establishing at least one connection between at least one pair of compatible pins;

a classifying arrangement which classifies said cores and said pins in terms of predetermined characteristics; and

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further comprising an encoding arrangement which encodes said characteristics as binary decision diagram variables.

13. **(Previously Presented)** The system according to Claim 12, wherein said assessing arrangement is adapted to perform Boolean operations on said binary decision diagram variables to compare and match characteristics.

14. **(Cancelled)**

15. **(Currently Amended)** ~~The system according to Claim 11,~~ A system for interconnecting cores in systems-on-chip, said system comprising:

a selector which selects at least two cores to be interconnected, each core having at least one associated pin classified in terms of predetermined functional, structural or electrical characteristics;

an assessing arrangement which automatically assesses the compatibility of at least one pin of at least one core with respect to at least one pin of at least one other core, wherein said assessing arrangement is adapted to perform a compatibility check to determine whether the pins of a given pair of pins are compatible with respect to at least one given characteristic;

a connecting arrangement which automatically interconnects said cores via establishing at least one connection between at least one pair of compatible pins; and

a classifying arrangement which classifies said cores and said pins in terms of predetermined characteristics, wherein said assessing arrangement is further adapted to

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perform a matching check to determine whether the pins of a given pair of pins exhibit equivalent values associated with at least one given characteristic.

16. **(Currently Amended)** The system according to ~~Claim 10~~ Claim 15, further comprising a verifying arrangement which verifies, subsequent to interconnecting, whether the pins in at least one interconnected pair of pins have matching pin characteristics.

17. **(Previously Presented)** The system according to Claim 16, wherein said verifying arrangement is adapted to refer to a predetermined list of pin characteristics to determine whether the pins in at least one interconnected pair of pins have matching pin characteristics.

18. **(Previously Presented)** A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for interconnecting cores in systems-on-chip, said method comprising:

selecting at least two cores to be interconnected, each core having at least one associated pin classified in terms of predetermined functional, structural or electrical characteristics;

automatically assessing the compatibility of at least one pin of at least one core with respect to at least one pin of at least one other core, wherein said assessing comprises performing a compatibility check to determine whether the pins of a given pair of pins are compatible with respect to at least one given characteristic; and

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automatically interconnecting said cores via establishing at least one connection
between at least one pair of compatible pins;

prior to said selecting step, classifying said cores and said pins in terms of
predetermined characteristics; and

wherein said assessing step further comprises performing a matching check to
determine whether the pins of a given pair of pins exhibit equivalent values associated
with at least one given characteristic.